

WHAT IS CLAIMED IS:

1. A method of treating dental carries and remineralizing lesions, said method comprising the steps
5 of:

directing a stream comprising an oxidizing gas onto a carious lesions for a period of time sufficient to kill microorganisms within the carious lesion; and

thereafter applying to the lesion a
10 remineralization formulation.

2. The method according to claim 1 wherein the formulation comprises a zinc salt.

15 3. The method according to claim 2 wherein the formulation comprises zinc chloride.

4. The method according to claim 3 wherein the formulation comprises:

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| | <u>INGREDIENT</u> | <u>PERCENT W/W</u> |
|----|------------------------------------|--------------------|
| | Water | 16.5576 |
| | Sorbitol 70%NF | 21.5933 |
| | Sodium Benzoate NF | 0.5000 |
| 25 | PVP | 2.0000 |
| | Sodium Tripolyphosphate | 3.0000 |
| | Titanium Dioxide | 1.0000 |
| | Sodium Monofluorophosphate | 0.2400 |
| | Xylitol | 0.4000 |
| 30 | Zinc Chloride | 0.7500 |
| | Sodium Citrate USP | 2.6000 |
| | Methyl Paraben | 0.1200 |
| | Dicalcium Phosphate, Dihydrate USP | 12.0000 |

| | | |
|----|---------------------------------------|----------|
| | Glycerin, 99.7% | 17.8890 |
| | CMC-7MXF | 0.9000 |
| | Hydrated Silca (Sylodent 756) | 9.7109 |
| | Hydrated Silica (Zeodant 165) | 4.4141 |
| 5 | Sodium Lauryl Sulfate | 0.6000 |
| | Sodium Methyl Cocoyl Taurate | 0.6000 |
| | Riboflavin | 0.0001 |
| | Flavor (Noville AN114153) | 2.0000 |
| | Chlorine Dioxide Solution, 2% | 3.1250 |
| 10 | Sodium Hydroxide USP, 10% (pH adjust) | 0.0000 |
| | | 100.0000 |

5. The method according to claim 3 wherein the
15 formulation comprising:

| <u>Ingredient</u> | <u>Percent w/w</u> |
|-------------------|--------------------|
| Deionized Water | 93.4800 |
| Sodium Benzoate | 0.3000 |
| Sodium Fluoride | 0.2400 |
| Xylitol | 1.0000 |
| Zinc Chloride | 0.5000 |
| Sodium Citrate | 1.5000 |
| Methylparaben | 0.0800 |
| Tauranol WS HP | 0.7500 |
| Flavor | 0.8000 |
| Poloxamor 407 | 1.2500 |
| FD&C Blue #1 | 0.0000 |
| Citric Acid | 0.1000 |
| | 100.0000 |

6. A formulation for the remineralization of teeth
20 following ozone treatment, said formulation comprising a
zinc salt.

7. The formulation according to claim 6 wherein the formulation comprises zinc chloride.

- 5 8. A formulation for the remineralization of teeth following ozone treat, said formulation comprising:

| <u>Ingredient</u> | <u>Percent W/W</u> |
|---------------------------------------|--------------------|
| Water | 16.5576 |
| Sorbitol, 70%NF | 21.5933 |
| Sodium Benzoate NF | 0.5000 |
| PVP | 2.0000 |
| Sodium tripolyphosphate | 3.0000 |
| Titanium dioxide | 1.0000 |
| Sodium Monofluorophosphate | 0.2400 |
| Xylitol | 0.4000 |
| Zinc Chloride | 0.7500 |
| Sodium Citrate USP | 2.6000 |
| Methyl paraben | 0.1200 |
| Dicalcium Phosphate, Dihydrate USP | 12.0000 |
| Glycerin 99.7% | 17.8890 |
| CMC 7MXF | 0.9000 |
| Hydrated Silica (Sylodent 756) | 9.7109 |
| Hydrated Silica (Zeodent 165) | 4.4141 |
| Sodium Lauryl Sulfate | 0.6000 |
| Sodium Methyl Cocoyl Taurate | 0.6000 |
| Riboflavin | 0.0001 |
| Flavor (Noville AN114153) | 2.0000 |
| Chlorine Dioxide Solution, 2% | 3.1250 |
| Sodium Hydroxide USP, 1-% (pH adjust) | 0.0000 |
| | 100.0000 |

- 10 9. A formulation for the remineralization of teeth following ozone treatment, said formulation comprising:

| <u>Ingredient</u> | <u>Percent w/w</u> |
|-------------------|--------------------|
| Deionized Water | 93.4800 |
| Sodium Benzoate | 0.3000 |
| Sodium Fluoride | 0.2400 |
| Xylitol | 1.0000 |
| Zinc Chloride | 0.5000 |
| Sodium Citrate | 1.5000 |
| Methylparaben | 0.0800 |
| Tauranol WS HP | 0.7500 |
| Flavor | 0.8000 |
| Poloxamor 407 | 1.2500 |
| FD&C Blue #1 | 0.0000 |
| Citric Acid | 0.1000 |
| | 100.0000 |